

What is claimed is:

Sub A1

1 1. An optical structure, comprising a resonator
2 structure having an optical portion forming a core, and a
3 cladding layer formed of an active material, said cladding
4 layer configured to amplify optical energy in said core.

Sub B17

1 2. A device as in claim 1, further comprising a pump
2 laser, optically pumping said cladding layer.

Sub B2

1 3. A system as in claim 2 wherein said cladding layer
2 is an erbium doped portion of material.

1 4. A system as in claim 2 wherein an effective path
2 length of the pumping is based on an optical path length that
3 is increased by the amplification.

1 5. A system as in claim 1 wherein said optically active
2 portion is formed of semiconductor material.

1 6. A system as in claim 5 wherein said semiconductor
2 material is one of silicon or gallium arsenide.

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1 7. A device as in claim 1 wherein said pumping laser
2 pumps the system to produce spontaneous emission from the core.

1 8. A method, comprising:

Sub A2
2 introducing light into an optical resonator; and
3 amplifying the light in the optical resonator.

Sub B17
1 9. A method as in claim 8 wherein said amplifying
2 comprises amplifying the light until spontaneous emission is
3 caused.

Sub A3
1 10. A method as in claim 8 wherein said amplifying
2 comprises adding a pump laser to a doping in a core portion of
3 the optical resonator.

Sub A4
1 11. A method as in claim 8 wherein said resonator is a
2 of the disk resonator.

1 12. A method as in claim 8 wherein said resonator uses
2 silicon as its optically active layer.

1 13. A method of sensing rotation, comprising:
2 introducing light into an optical resonator;
3 rotating said optical resonator; and
4 detecting a wavelength dependence caused by said rotation
5 to detect some characteristic of said rotation.

14. A method as in claim 13 wherein said detecting
comprising detecting an intensity.

sent
A 5

16. A laser comprising an optical resonator, with an
5 active core material, and a pump laser which drives said
active clad material until said optical resonator
spontaneously emits light.

$$\begin{array}{ccccccc} \{\dots\}_{n+1} & \{\dots\}_n & \{\dots\}_{n-1} & \{\dots\}_{n-2} & \{\dots\}_{n-3} & \{\dots\}_{n-4} & \{\dots\}_{n-5} \\ \vdots & \vdots & \vdots & \vdots & \vdots & \vdots & \vdots \\ \text{Unit } n! & \text{Unit } (n-1)! & \text{Unit } (n-2)! & \text{Unit } (n-3)! & \text{Unit } (n-4)! & \text{Unit } (n-5)! & \text{Unit } (n-6)! \end{array}$$